ENVIROPULSE CC

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RE: EMP of the Dept Mineral & Energy for Farms Suikerboschplaat, Bankfontein, Langkloof, Bezuidenhoudshoek & Aasvoelkrans - File Number MP/30/5/1/1/2/(4487) PR

16 July 2009

To:
Bezuidenhoutshoek Farm (Pty) Ltd

Attention:

- Sid Sidersky

ECOLOGICAL SURVEY

The EMP document of the Department of Minerals and Energy Affairs for the above-mentioned farms dated 3rd July 2009 refers.

Up to date (16 July 2009) a total of 49 sites have been assessed on the farms Bezuidenhoudshoek 274 JS and Bankfontein 264 JS.

So far it is of my opinion that these two farms are irreplaceable in terms of grass species richness.

With my experience as a grassland ecologist I have never seen any grassland with more than 30 grass species but at these farms it seems to be the norm for this grassland which forms an ecotone between temperate moist grasslands south and the more tropical grassland north.

I use the same method when monitoring grasslands in other provinces. A few areas within the moist grassland contain more than 25 grass species and I would estimate from my experience that it would be between 2% and 5% of all surveys that I monitor each year.

However, in this study area, more than 57% of the sites already evaluated represent grassland with more than 20 grass species per 2500m^2. with already quite a number of sites with more than 30 species per site (area per site 2500m^2).

Areas in overgrazed condition or areas currently in a more degraded condition mostly contain between 11-20 grass species. Under similar conditions less than 10 grass species would be expected, therefore even areas where there was an impact from past overgrazing reflect better conditions than what is the norm for grasslands.

Another aspect is the composition of the grass species, with grass species typical of semi-arid vegetation which are found together with grass species typical of moist grasslands.

Restoration:

The grassland on sandy soils underlain by Sandstone is very sensitive to disturbance. Any topsoil disturbancewill also disturb the organic and inorganic composition and will lead to a permanent loss of Decreaser grasses and other species with very specific habitat requirements. Near the surface of the sandy soils the conditions are more fragile compared to clayey soils but some grass species prefer very specific conditions such as soil depth, shade or soil moisture conditions. Disturbance and then "rehabilitation" cannot replace the distribution patterns, composition and occurrence of certain grass species, especially in this grassland area at the farms of the study area.

The grasses within the grass layer is very unique, the specific composition and occurrence of both tropical and moist grassland species within the same area. Some tropical species has their most southern occurrence within this area, one which is a rare grass species. Other grass species on the farms are recorded as being infrequent. There is even a request from America to come and source seed from a *Stipa* species, which is not widespread and never occur extensively within the grass layer.

Furthermore, the conservation value of the grassland extend further than the grass species itself, for it is the function of the grass layer as habitat for other fauna species, but also for non-grassy flora.

In the event of drilling or mining as specified in the mining EMP it is therefore envisaged that the character of this irreplaceable grassland will be permanently lost.

These are some of the reasons why we need to conserve this grassland and as this study progress more grass species will be discovered or be encountered on other parts of the farms where surveys still need to be done.

I envisage to complete the study by the middle of September 2009 and will submit a full and comprehensive report detailing all the species, their occurance, sensitiveness and ecological value.

Kind regards

Francois de Wet *MGSSA*